What is claimed is:

1. A crystal of the extracellular domain of mammalian DPP-IV, wherein the crystal has an orthorhombic space group of $P2_12_12_1$ and one homodimer of DPP-IV in the asymmetric unit.

2. The crystal of claim 1, wherein the crystal has unit cell dimensions of:
a is from 63 Å to 70 Å;
b is from 66 Å to 70 Å;
c is from 416 Å to 424 Å;
and a $P2_12_12_1$ symmetry.

3. The crystal of claim 2, wherein the crystal has the atomic structure coordinates according to Table 4.

4. A co-crystal of the extracellular domain of mammalian DPP-IV which comprises a ligand bound to the active site of the mammalion DPP-IV, wherein the crystal has an orthorhombic space group of $P2_12_12_1$ and one homodimer of DPP-IV in the asymmetric unit.

5. The co-crystal of claim 4, wherein the co-crystal has unit cell dimensions of:
a is from 63 Å to 70 Å;
b is from 66 Å to 70 Å;
c is from 416 Å to 424 Å;
and a $P2_12_12_1$ symmetry.

6. The co-crystal of claim 4 further comprising $HgCl_2$.

7. A co-crystal of the extracellular domain of mammalian DPP-IV which comprises a ligand bound to an allosteric binding site of the mammalian DPP-IV, wherein the crystal has an orthorhombic space group of $P2_12_12_1$ and one homodimer of DPP-IV in the asymmetric unit.

8. The co-crystal of claim 7 further comprising $HgCl_2$.

9. A method for crystallizing mammalian DPP-IV, the method comprising (a) providing a buffered, aqueous solution of pH 7 to 8.5 with a concentration of 7 mg/ml to 22 mg/ml of the extracellular domain of mammalian DPP-IV;

and

(b) growing crystals by vapor diffusion using a buffered reservoir solution with between 10% and 30% PEG, between 10% and 20% glycerol, wherein PEG has an average molecular weight between 1000 and 20000.

10. The method according to claim 9, wherein the extracellular domain of mammalian DPP-IV of step (a) is produced in P. pastoris and then deglycosylated.

11. A method for co-crystallizing mammalian DPP-IV and an active site ligand, the method comprising

(a) providing a buffered, aqueous solution of pH 7 to 8.5 with a concentration of 7 mg/ml to 22 mg/ml of the extracellular domain of mammalian DPP-IV;

(b) adding a molar excess of the active site ligand to the aqueous solution of mammalian DPP-IV;

(c) growing crystals by vapor diffusion using a buffered reservoir solution with between 10% and 30% PEG, between 10% and 20% glycerol, wherein PEG has an average molecular weight between 1000 and 20000.

12. The method according to claim 11, wherein the extracellular domain of mammalian DPP-IV of step (a) is produced in P. pastoris and then deglycosylated.

13. A crystal produced by the method according to claim 9.

14. A co-crystal produced by the method according to claim 11.

15. An isolated nucleic acid sequence which encodes the soluble extracellular domain of DPP-IV, comprising the nucleotide sequence of SEQ ID NO:1.

16. A nucleic acid construct comprising an expression vector and the nucleic acid sequence according to claim 15.

17. A host cell transformed with the nucleic acid construct according to claim 16.

18. A method of producing the soluble extracellular domain of DPP-IV comprising culturing the host cell of claim 17 under conditions permitting the expression of the soluble extracellular domain of DPP-IV by the host cell.

19. The method according to claim 18, wherein the host cell is P. pastoris.

20. A polypeptide comprising the soluble extracellular domain of DPP-IV as set forth in SEQ ID NO:2.